April 27, 2001

Mr. Robert Masten
M & M Fabrication Corporation
52941 Glenview Drive
Elkhart, Indiana 46514

Re: Registered Construction and Operation Status,
039-13701-00206

Dear Mr. Masten:

The application from M & M Fabrication Corporation, received on January 3, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following recreational vehicle parts fabrication plant, located at 52941 Glenview Drive, Elkhart, Indiana 46514 is classified as registered:

(a) One (1) spray paint building, identified as paint building, with a maximum capacity of coating 2.2 units per hour, using dry filters as particulate matter control, and exhausting to stacks SV-1 and SV-2;

(b) Three (3) natural gas furnaces, identified as F-1, F-2, and F-3, each with a maximum heat input capacity of 0.4 million British thermal units (MMBtu) per hour, exhausting to the atmosphere;

(c) Three (3) air make up units, identified as AM-1, AM-2, and AM-3, each with a maximum heat input capacity of 0.86 MMBtu per hour, exhausting to the atmosphere;

(d) One (1) office furnace, identified as F-4, with a maximum heat input capacity of 0.1 MMBtu per hour, and exhausting to the atmosphere; and

(e) Recreational vehicle steel parts conversion process with a maximum rate of processing 975.0 pounds of steel per hour, consisting of the following equipment:

(1) eleven (11) hand grinders;
(2) three (3) bench grinders;
(3) two (2) belt sanders;
(4) one (1) chop saw;
(5) one (1) plasma cutter;
(6) one (1) hand sander;
(7) thirty one (31) mig welders; and
(8) thirty one (31) wire feeders for welders.

The following conditions shall be applicable:

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuos opacity monitor in a six (6) hour period.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the following conditions shall be met:

(a) The volatile organic compound (VOC) content of coatings applied to metal parts or products in the paint building shall be limited to 3.5 pounds of VOC per gallon of coating less water delivered to the applicator, for air dried or forced warm air dried coatings.

(b) Solvent used during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent use is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Pursuant to 326 IAC 6-3-2, the PM emissions from the paint building shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the grinders and sanders shall not exceed 2.53 pounds per hour when operating at a process weight rate of 975 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

$E = 4.10\ (0.4875)^{0.67} = 2.53$ lbs PM/hr

This registration is the second air approval issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

LQ/EVP

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance - Greg Wingstrom
Northern Regional Office
Permit Tracking - Janet Mobley
Air Programs Section- Michelle Boner

Registration

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	**M & M Fabrication Corporation**
Address:	**52941 Glenview Drive**
City:	**Elkhart**
Authorized individual:	**Robert Masten**
Phone #:	**219-262-4777**
Registration #:	**039-13701-00206**

I hereby certify that M & M Fabrication Corporation is still in operation and is in compliance with the requirements of Registration 039-13701-00206.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**M & M Fabrication Corporation**
Source Location:	**52941 Glenview Drive, Elkhart, Indiana 46514**
County:	**Elkhart**
SIC Code:	**3799**
Operation Permit No.:	**039-13701-00206**
Permit Reviewer:	**Linda Quigley/EVP**

The Office of Air Quality (OAQ) has reviewed a renewal application from M & M Fabrication Corporation relating to the operation of a recreational vehicle parts fabrication plant.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) spray paint building, identified as paint building, with a maximum capacity of coating 2.2 units per hour, using dry filters as particulate matter control, and exhausting to stacks SV-1 and SV-2;

(b) Three (3) natural gas furnaces, identified as F-1, F-2, and F-3, each with a maximum heat input capacity of 0.4 million British thermal units (MMBtu) per hour, exhausting to the atmosphere;

(c) Three (3) air make up units, identified as AM-1, AM-2, and AM-3, each with a maximum heat input capacity of 0.86 MMBtu per hour, exhausting to the atmosphere;

(d) One (1) office furnace, identified as F-4, with a maximum heat input capacity of 0.1 MMBtu per hour, and exhausting to the atmosphere; and

(e) Recreational vehicle steel parts conversion process with a maximum rate of processing 975.0 pounds of steel per hour, consisting of the following equipment:

(1) eleven (11) hand grinders;
(2) three (3) bench grinders;
(3) two (2) belt sanders;
(4) one (1) chop saw;
(5) one (1) plasma cutter;
(6) one (1) hand sander;
(7) thirty one (31) mig welders; and
(8) thirty one (31) wire feeders for welders.

Note: PM and PM-10 emissions from the steel parts grinding and sanding processes are negligible.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) CP039-2222-00001, issued on May 11, 1994.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
SV-1	Paint Building	3.0	1.5	5000	ambient
SV-2	Paint Building	3.0	1.5	5000	ambient

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 3, 2001, with additional information received on February 1, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations, pages 1 - 6.

Potential To Emit (of Source or Revision) Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	19.56
PM-10	19.66

SO_2	0.01
VOC	9.19
CO	1.43
NO_x	1.70

HAP's	Potential To Emit (tons/year)
glycol ethers	less than 10
TOTAL	less than 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC, PM and PM-10 are equal to or greater than five (5) tons per year, but less than twenty-five (25) tons per year. Therefore, pursuant to 326 IAC 2-5.5-4, a registration is required.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	maintenance
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as maintenance for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	1.14
PM10	1.24
SO_2	0.01
VOC	9.19
CO	1.43
NO_x	1.70

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28

listed source categories.

(b) These emissions were based on information in the application submitted by the source.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R039-13701-00206, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit PM, PM-10 and VOC is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (New Source Toxics Control)

This rule applies to new or reconstructed facilities with potential emissions of any single HAP equal to or greater than ten (10) tons per year and potential emissions of combination of HAPs greater than or equal to twenty-five (25) tons per year. Since HAP emissions are less than ten (10) tons per year and twenty-five (25) tons per year respectively, the requirements of 326 IAC 2-4.1 do not apply.

326 IAC 6-3-2 (Process Operations)

(a) The particulate matter (PM) emissions from the paint building shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The dry filters shall be in operation at all times the paint building is in operation, in order to comply with this limit.

(b) The particulate matter (PM) emissions from the grinders and sanders shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

$E = (4.10) * (0.4875)^{0.67} = 2.53$ lb/hr

Based on the above equation, particulate matter emissions from the grinding and sanding processes shall be limited to 2.53 pounds per hour.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the spray paint building shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried or forced warm air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth is in compliance with this requirement.

No other article 8 rules apply to this source.

Conclusion

The operation of this recreational vehicle parts fabrication plant shall be subject to the conditions of the attached proposed Registration 039-13701-00206.

Appendix A: Emission Calculations

Company Name: **M & M Fabrication Corporation**
Address City IN Zip: **52941 Glenview Drive, Elkhart, Indiana 46514**
Registration #: **039-13701-00206**
Plt ID: **039-00206**
Reviewer: Linda Quigley/EVP
Date: February 20, 2001

Uncontrolled Potential Emissions (tons/year)

	Emissions Generating Activity			
Pollutant	Welding and Thermal Cutting	Natural Gas Combustion	Surface Coating	**TOTAL**
PM	0.54	0.03	18.99	19.56
PM10	0.54	0.13	18.99	19.66
SO2	0.00	0.01	0.00	0.01
NOx	0.00	1.70	0.00	1.70
VOC	0.00	0.09	9.10	9.19
CO	0.00	1.43	0.00	1.43
total HAPs	negl.	negl.	6.71	6.71
worst case single HAP	negl.	negl.	6.71	6.71

Total emissions based on rated capacity at 8,760 hours/year.

Controlled Potential Emissions (tons/year)

	Emissions Generating Activity			
Pollutant	Welding and Thermal Cutting	Natural Gas Combustion	Surface Coating	**TOTAL**
PM	0.54	0.03	0.57	1.14
PM10	0.54	0.13	0.57	1.24
SO2	0.00	0.01	0.00	0.01
NOx	0.00	1.70	0.00	1.70
VOC	0.00	0.09	9.10	9.19
CO	0.00	1.43	0.00	1.43
total HAPs	negl.	negl.	6.71	6.71
worst case single HAP	negl.	negl.	6.71	6.71

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: M and M Fabrication Corporation
Address City IN Zip: 52941 Glenview Drive, Elkhart, IN 46514
Registration #: 039-13701-00206
Plt ID: 039-00206
Reviewer: Linda Quigley/EVP
Date: February 20, 2001

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
3-548 Black	8.8	72.90%	59.6%	13.3%	62.8%	27.00%	0.66300	2.200	3.13	1.16	1.70	40.74	7.43	13.63	4.31	10%
3-718 Grey	10.2	59.24%	47.8%	11.4%	57.2%	40.00%	0.14900	2.200	2.71	1.16	0.38	9.11	1.66	5.35	2.90	10%
State Potential Emissions											**2.08**	**49.85**	**9.10**	**18.99**		

Control Efficiency:		Controlled	Controlled	Controlled	Controlled
VOC	PM	VOC lbs per Hour	VOC lbs per Day	VOC tons per Year	PM tons/yr
0.00%	97.00%	**2.08**	**49.85**	**9.10**	**0.57**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Appendix A: Emission Calculations
HAP Emission Calculations

M & M Fabrication Corporation
52941 Glenview Drive, Elkhart, Indiana 46514
039-13701-00206
039-00206
Linda Quigley/EVP
February 20, 200[illegible]

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Glycol Ethers	Emissions (ton/yr)
Grey Primer	8.75	0.663000	2.20	8.80%	4.92
Black Enamel	10.16	0.149000	2.20	12.30%	1.79

Total State Potential Emissions **6.71**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: **M & M Fabrication Corporation**
Address City IN Zip: **52941 Glenview Drive, Elkhart, Indiana 46514**
Registration #: **039-13701-00206**
Plt ID: **039-00206**
Reviewer: Linda Quigley/EVP
Date: February 20, 2001

Unit ID	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
F-1	0.4	34.0
F-2	0.4	
F-3	0.4	
AM-1	0.9	
AM-2	0.9	
AM-3	0.9	
F-4	0.1	
Total	3.9	

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.03	0.13	0.01	1.70	0.09	1.43

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 5 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: **M & M Fabrication Corporation**
Address City IN Zip: **52941 Glenview Drive, Elkhart, Indiana 46514**
Registration: **039-13701-00206**
Plt ID: **039-00206**
Reviewer: Linda Quigley/EVP
Date: February 20, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.569E-05	2.039E-05	1.275E-03	3.059E-02	5.778E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	8.497E-06	1.869E-05	2.379E-05	6.458E-06	3.569E-05

Methodology is the same as page 4.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Company Name: **M & M Fabrication Corporation**
Address City IN Zip: **52941 Glenview Drive, Elkhart, Indiana 46514**
Permit No./Plt ID: **039-13701-00206**
Reviewer: Linda Quigley/EVP
Date: February 20, 2001

PROCESS	Number of Stations	Max. electrode consumption per station		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
WELDING		(lbs/hr)		PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG) (E-70)	31	0.55		0.0055	0.0005			9.38E-02	8.53E-03	0.00E+00	0.00E+00	8.53E-03
	Number of Stations	Max. Metal Thickness Cut	Max. Metal Cutting Rate	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
FLAME CUTTING		(in.)	(in./minute)	PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Plasma Cutter	1	0.5	6	0.1622	0.0005	0.0001	0.0003	2.92E-02	1.46E-05	2.92E-09	1.46E-13	1.46E-05
EMISSION TOTALS								PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr								1.23E-01	8.54E-03	0.00E+00	1.46E-13	8.54E-03
Potential Emissions lbs/day								2.95E+00	2.05E-01	0.00E+00	3.50E-12	2.05E-01
Potential Emissions tons/year								**5.39E-01**	3.74E-02	0.00E+00	6.39E-13	3.74E-02

METHODOLGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.
Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).
Welding and other flame cutting emission factors are from an internal training session document.
See AP-42, Chapter 12.19 for additional emission factors for welding.